



U.S. Department  
of Transportation  
Federal Aviation  
Administration

# Advisory Circular

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Subject: Manufacturers Reporting Failures,  
Malfunctions, or Defects

Date: 5/26/82

AC No. 21-9A

Initiated by: AWS-200

Change:

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1. PURPOSE. This circular provides information to assist manufacturers of aeronautical products (aircraft, aircraft engines, propellers, appliances, and parts) in notifying the Federal Aviation Administration (FAA) of certain failures, malfunctions, or defects, resulting from design or quality control problems, in the products which they manufacture.

2. CANCELLATION. AC 21-9, Manufacturers Reporting Failures, Malfunctions, or Defects dated December 30, 1970.

3. RELATED FEDERAL AVIATION REGULATIONS. Federal Aviation Regulations Parts 21, 121, 127, and 135.

4. DISCUSSION.

a. FAR 21.3 requires the holder of a type certificate (TC) (including a supplemental type certificate (STC), or a parts manufacturer approval (PMA), or a technical standard order (TSO) authorization, or the licensee of a type certificate to notify the FAA of any failure, malfunction, or defect in their product or part that they determine has resulted in any one of the occurrences specified in this rule. In addition, they must notify the FAA of any defective product or part that has left their quality control system and which they determine could result in any one of the occurrences specified in this rule. It

is expected that compliance with FAR 21.3 will provide the earliest possible notification to the FAA of a hazardous condition, and that appropriate corrective action will be initiated by the manufacturer.

b. It is recognized that a manufacturer may choose to report an item prior to completion of his investigation to assure that the FAA is properly informed of the problem. However, the manufacturer need not report until he has determined that a deficiency does exist. The method and manner of reporting may be in accordance with systems and procedures already established by the manufacturer, if that system provides for immediate identification of the items noted in FAR 21.3(c).

c. The subject rule does not apply to the notification of a defect which the manufacturer becomes aware of during the normal manufacturing cycle of a product or article unless like products or articles have left his quality control system. If the product or article is readily retrievable by the manufacturer, i.e., under his defined quality control system, then notification is not necessary. It is suggested that manufacturers review their quality control system to assure that the limits of the system are clearly defined.

5. NOTIFICATION PROCEDURES. It is recommended that each manufacturer contact the appropriate aircraft certification office to:

- a. Ensure an understanding of the rules;
- b. Establish the most expeditious means of conveying the required information; (It is anticipated that telephone notification will be used in the majority of cases.)
- c. Determine the person(s) to be contacted;
- d. Establish a means of keeping the appropriate FAA office

informed of progress and additional information on those cases where only preliminary information has been reported.

6. **APPLICABILITY TO FOREIGN MANUFACTURERS.** The reporting rules do not apply to foreign manufacturers whose products or articles have been approved under the applicable import certification provisions of FAR Part 21. Under the provisions of the bilateral airworthiness agreements the United States has concluded with various foreign countries, the FAA relies on the civil air authorities of those countries to keep it informed of hazardous conditions occurring in these products or articles.

7. **GUIDANCE RELATIVE TO REPORTING.** FAR 21.3(d) speaks to those conditions under which reports are not required.

a. The requirements under FAR 21.3(a) do not apply if it is determined by the holder that the failure, malfunction, or defect was caused by improper maintenance or improper usage as noted in FAR 21.3(d)(i). This excludes those items that are a result of causes other than design or quality control problems. For example, if a part failed and resulted in one of the occurrences noted in FAR 21.3(c) and it is found the failure is due to a worn

part caused by improper maintenance, the failure need not be reported. However, if the part was found to fail because of design or a quality control deficiency, the holder must report the item. An engine fire from a fuel line failure due to an overtightened cracked "B" nut during maintenance would not be reported; a "B" nut which cracked due to overtightening when torqued in accordance with design or manufacturer's instructions would be reported.

b. As noted in the rule, the holder of a type certificate (including a supplemental type certificate), or a parts manufacturer approval, or TSO authorization, or the licensee of a type certificate is responsible for reporting the failures, malfunctions, or defects in their products or parts resulting in

the occurrences specified in FAR 21.3(c). However, if an operator experiences an engine shutdown during flight and external damage to the engine or airplane structure occurs as a result of the engine shutdown this should be reported under either FAR Parts 121, 127, or 135. The engine TC holder is not required to report under FAR 21.3(a) if the engine TC holder knows the failure was reported by another person under FAR Parts 121, 127, or 135 or that it has been reported under the accident reporting provisions of Part 830 of the NTSB regulations (reference FAR 21.3(d)(1)(ii) and (iii)).

c. FAR 21.3(d)(2) removes the need to report as required by FAR 21.3(a) if the products, parts, or articles are manufactured by a foreign manufacturer under a U.S. type certificate issued under FAR 21.29, or a TSO design approval under FAR 21.617, or when exported to the U.S. under FAR 21.502.

d. FAR 21.3 is directed to those deficiencies in the product that only the manufacturers would normally be expected to know (i.e., a design or a quality control deficiency). The deficiency that caused the occurrence is required to be reported under FAR 21.3(a).

/s/ M. C. Beard